Canada: Aircraft Engines & Engine Parts

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Summary

Despite the global economic slowdown, Canada's aerospace industry presents export opportunities for U.S. aerospace suppliers. Canada's aerospace industry is the world's third largest aerospace market after the United States and Europe, and it is positioning itself to emerge from this market downturn stronger than ever. Canada is a premier world supplier of aircraft engines and engine parts; their niche is in the production and maintenance of small turbofan, turboprop and turboshaft engines. Canadian engines are used to power business, regional and utility aircraft and helicopters and are currently operating in over 200 countries worldwide. Some of the key factors that are helping Canada's aerospace sector navigate the current economic downturn and sustain a demand for engine and engine parts include: Canadian aerospace OEM order books are large, the Canadian government and industry is investing in research to develop new engine technologies, and Canadian companies are winning large contracts globally for engine manufacturing and maintenance. While it is challenging to accurately predict where the aircraft manufacturing market will be next year, Canada's demand for engine and engine parts is likely to experience a marginal growth in 2009. Many Canadian aerospace companies are taking advantage of the recent slowdown in aircraft manufacturing to reevaluate their suppliers, thereby creating business opportunities for U.S. suppliers of aircraft engines and engine parts.

Market Demand[1]

Canada's international aerospace reputation and know-how is among the best. In 2008, Canadian aerospace sales totaled $19.38[2] billion, with approximately 400 aerospace companies employing 83,000 workers. Aircraft engines and engine part manufacturing, and engine-related services account for 25% of the total Canadian aerospace output, and employs more than 10,000 people. Like the Canadian aerospace industry, approximately 80% of all engine and engine parts products and services are exported. As you can see below, many Canadian firms have a large share of the world's aerospace market, including small gas turbine engines manufacturing.

Canadian Aerospace Companies' Global Competitiveness and Leadership - 2004

Segment	World Market Share
20–90 seat regional aircraft	47%
Small gas turbine engines	34%
Commercial flight simulators	80%
Visual simulation sector	70%
Civil helicopters	14%
Landing gear	31%
New large aircraft landing gear	60%
Transport aircraft environmental control systems	60%

Source: Aerospace Industries Association of Canada, Teal Group.

[1] Engine and engine parts products analyzed in this report are listed in the HS Codes section (page 7). Engine services are not included.
[2] According to the Aerospace Industries Association of Canada, Canadian aerospace production in 2008 was $23.6 Billion CDN. The Canada-U.S. exchange rate of 1.218 was used.

Canada's engine and engine parts market caters to the small engine needs of aircraft manufacturers. Canada is a world leader in manufacturing engines for private business jets, commercial helicopters, and small to medium sized regional commercial aircraft, both in the turboprop and turbofan categories.

The Canadian demand for engine and engine parts is positioned to experience marginal growth. Airliners and businesses are deferring purchases of new aircraft, thereby lessening aircraft manufacturers' demand for aircraft engines and parts. Also, as more aircraft are grounded, it also decreases the demand for engine maintenance, repair and overhaul services and consequently the demand for engine parts. Therefore, the production of engines is slowing down, as is the need for engines and engine parts.

However, the following factors ensure Canada's marginal growth in demand for engines and engine parts.

1. Canada is Home to Successful Global Leaders in Aircraft and Engine Manufacturing

Canada's demand for engines and engine parts is mostly fueled by the presence of large aircraft manufacturers such as Bombardier and Bell Helicopter Textron, and the presence of large engine manufacturers and repair centers such as Pratt & Whitney Canada (PWC), Rolls Royce and GE to name a few. While these firms are experiencing a slowdown, they are stable aerospace leaders with considerable backlogs and are positioning themselves to recover quickly from the economic downturn. Moreover, they continue to win contracts, albeit at a much slower pace than 2008.

- Paris Air Show 2009: PWC announced new business orders worth $650 million
- Bombardier announced 35 firm orders for its CRJ1000 worth a total of $1.75 billion
- Bombardier's backlog reached $23.5 billion on January 31, 2009, compared to $22.7 billion on January 31, 2008. Its deliveries are at 75 aircraft so far this year, compared to 87 at the same time last year.
- Bombardier expects to deliver approximately 25% less business aircraft this fiscal year compared to last fiscal year, and expects to increase deliveries of commercial aircraft by 10% compared to last fiscal year.

2. Engine Maintenance, Repair and Overhaul (MRO)

Canadian companies are winning large engine maintenance, repair and overhaul contracts with domestic and foreign carriers; this success is fueling Canada's demand for engine and engine parts. In 2008, aircraft maintenance, repair and overhaul accounted for approximately 18% of the total aerospace industry in Canada, representing approximately $3.49 billion. Below is a sample of some of the latest contracts being awarded to Canadian MRO centers.

- Standard Aero signed a 12-year, $850 million deal with WestJet Airlines to maintain and repair aircraft engines for WestJet's fleet of 737s, which is about 79 aircraft.
- ExelTech Aerospace Inc. won MRO work on Embraer jets for an undisclosed value over Embraer's own MRO centre in Nashville, TN.
- Vector Aerospace Corporation was awarded a seven year engine maintenance contract with a division of Jazz Air Income Fund valued at about $170 million.
- ACTS's engine maintenance center recently won a contract with GE worth $2.5 billion.

3. Research & Development of Greener Engines

There is a high demand for new, advanced green engine parts and technologies. International air travel regulators and aircraft manufacturers are seeking greener solutions to lower the operating costs and environmental footprints of aircrafts. In 2008 Pratt & Whitney Canada, Canada's largest private R&D aerospace investor, launched its PurePower engine family. This new next-generation engine will power commercial and business jets offering double-digit improvements in fuel efficiency, noise reduction and operating costs. PWC's

demand for engine parts is likely to remain healthy because its PurePower engine, destined to enter the market in 2013, has already attracted a solid customer base. These engines will be powering Bombardier's CSeries and Mitsubishi's MRJ regional jets. Moreover, in 2008, PWC also announced it will invest over $287 million to improve engine technology that will surpass the stringiest environmental standards while also delivering superior performance, durability and operating costs.

4. Research & Development in New Engine Technologies in General

As newer engine technologies are developed, there is an increase in the demand for state-of-the-art engine parts and related products. In 2008, aerospace investment totaled $1.64 billion, a 25% increase from $1.3 billion in 2007. Annual investment in engine research and development, state-of-the-art equipment and systems averages nearly 15% of revenues. This creates a stable demand for engines and engine parts that is likely to rise over time and present long-term opportunities for U.S. suppliers.

Pratt & Whitney is joining forces with Rolls Royce Canada to build the Global Aerospace Center for Icing and Environmental Research Inc. (GLACIER), a state-of-the-art facility that will engender new engine-related research and development. Also noteworthy the Canadian Environmental Test Research and Education Center, a year-round research facility designed to support engine icing certification, and research & development of new, more efficient and advanced aerospace designs. Combined, these facilities located in Northern Manitoba are poised to provide world class research and development programs and technological breakthroughs in engine technologies.

5. The Canada First Defence Strategy[3]

The Government of Canada trades US$3.5 billion of defense and security goods with the U.S. annually; Canada currently outspends NATO's 12 lowest defense spenders combined. This year, Canadian defense spending has reached the highest level since World War II with a defense budget of slightly more than US$18 billion per year. The Canada First Defence Strategy sets a detailed road-map for the modernization of the Canadian Forces and will bring the annual defense budget to CDN$30 billion by 2027-2028. Canada's Afghanistan mission equipment and services requirements are driving demand for a wide range of products and technologies. The Canadian government has already begun acquiring equipment such as C-17 Globemaster transport aircraft.

U.S. companies should note that for Canadian government aerospace and defense procurement contracts valued at over CDN$100 million, the organization awarded the contract is required to fulfill Industrial Regional Benefits (IRB) requirement, known in the United States as "offsets." The IRB Policy requires winning contractors to make investments in the Canadian economy in an amount usually equal to the defense procurement contract awarded.

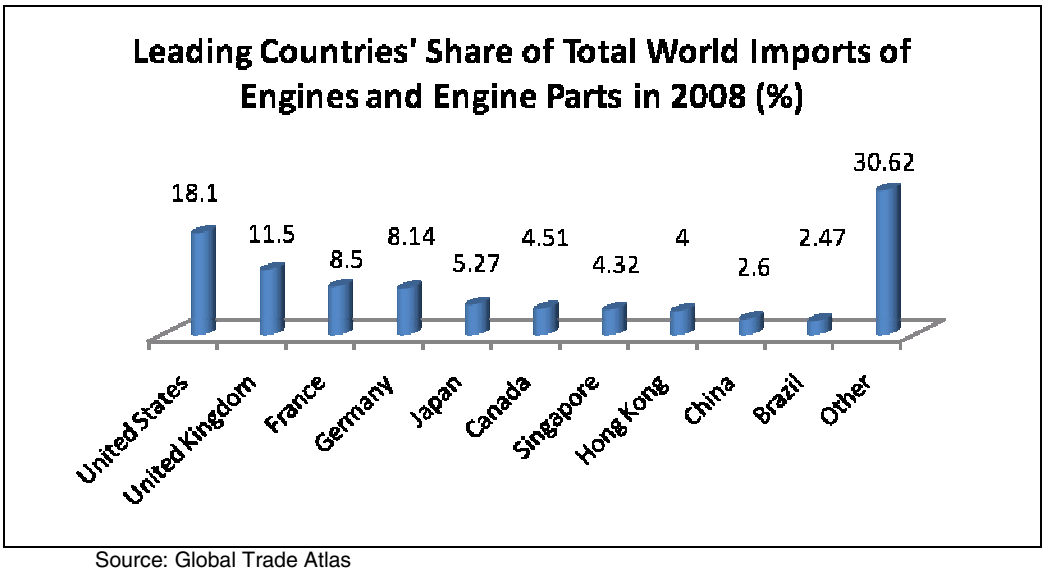
6. Canada's Participation in the U.S.-led Joint Strike Fighter Program

Canada is part of the U.S.-led Joint Strike Fighter (JSF) program. This program is building the new F-35 Lighting II fighter jet to replace older jets. Canada invested $160 million in the program and, so far, over 70 Canadian companies won contracts worth $212 million. According to Lockheed Martin, the JSF will likely generate up to $9 billion in contracts for Canadian companies by 2035. Many Canadian companies are working on various parts of the JSF program, including parts and technologies that will go into the aircraft's structure and engine.

Market Data

Canada is the world's 6th largest importer of engines and engine parts. In 2008, Canada imported a total value of $4.51 billion engines and engine parts representing a 13% increase over 2007. When combining Canada and the United States, together they account for nearly 23% of all engine related imports worldwide.

[3] In Canada, the word defense is spelled "defence."



Source: Global Trade Atlas

In 2008, total engine and engine parts production in Canada totaled $2.91 billion, a 4% increase over 2007. Canada's domestic production is quite smaller than the value of its engine and engine part market. In 2008, the market size was valued at $3.57 billion, a 13% increase over 2007. This market characteristic is in great part due to Canada's substantial MRO sector, of which approximately 10% is devoted entirely to engine related work. Canada imports more goods than it produces nationally in order to meet its demand for engines and engine parts.

While it is difficult to estimate how the market will fare by the end of this year, based on current aircraft sales, backlogs and deferrals, as well as the slowdown in production of aircraft, industry officials estimate the engine market will grow slightly by 2%, as companies work through their backlog, and then begin to slower their production of engine and engine parts in the later part of 2009 and into 2010.

Canadian Engine and Engine Parts Market

	2007	2008	2009 (estimated)
Market Size	$ 3.16	$ 3.57	$ 3.65
Domestic Production	$ 2.8	$ 2.91	$ 3.15
Exports	$ 4.36	$ 5.17	$ 4.9
Imports	$ 4	$ 4.51	$ 4.40
Imports from the U.S.	$ 2.4 (60%)	$ 2.7 (60%)	$ 2.58 (60%)

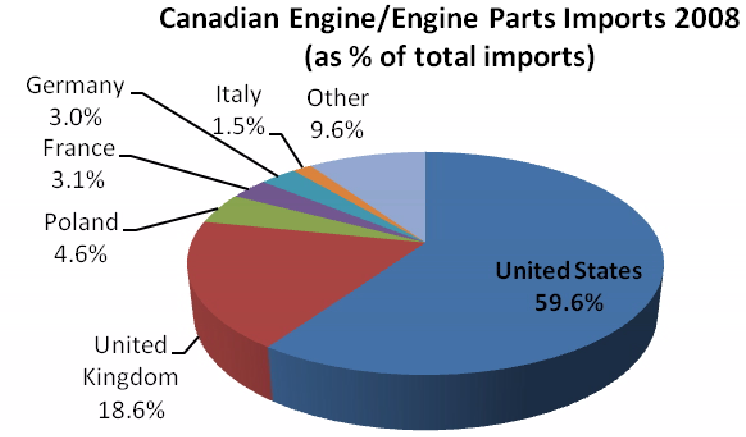
Source: Global Word Trade Atlas. All figures are in $U.S billion.

The engine and engine parts products covered by this study correspond to the following HS codes: 840710, 840910, 841111, 841112, 841121, 841122, 841181, 841182, 841191, 841199, 841210, 841319, 841330, and 8479899997. Engine-related services are not included.

Canada is a net-exporter of engine and engine parts. Since 2006, Canada's exports are rising faster than imports, demonstrating Canada's competitive edge in engine and engine part manufacturing and maintenance. In 2008 exports reached $5.17 billion, a 19% increase over 2007. Conversely, imports reached $4.51 billion, a 13% increase over 2007.

Canadian Engine / Engine Parts Imports Sources: U.S. Captures a Large Share of Imports

The United States is by far the largest exporter of engines and engine parts to Canada. In 2007 and 2008, the United States accounted for nearly 60% of Canada's engine related imports. In 2008, Canada's imports from the U.S. were growing as quickly as Canada's total worldwide imports. It is estimated that the U.S. share will hover around the 60% mark again in 2009.



Source: Global Trade Atlas.

Other Foreign Suppliers

The second largest exporter of engines and engine parts to Canada is the U.K., with 18.6% of total Canadian imports in 2008. Combined, the U.S. and U.K. account for 78.2% of all engine related imports. European countries account for slightly over 30% of all Canadian engine related imports. Significant countries whose exports to Canada grew between 2007 and 2008 include: Ireland (exports grew by 116.59%), China (43.33%), Poland (34.22%), Italy (28.49%), Japan (25.84%), France (18.63%) and the United States (12.85%).

Noteworthy foreign importers are China and Mexico, two low-cost centers that Canadian and many other aerospace companies are targeting. In 2008, Chinese exports of engine related products to Canada totaled $1.5 billion, a 43% increase over 2007. Mexico was a larger supplier of engines and engine parts to Canada than China but, since 2006, its total value of their engine exports to Canada has been decreasing. In 2008, Mexico sold $1.3 billion of engines and engine parts to Canada, a drop of approximately 18% over the previous year.

Best Prospects

The top 3 best prospects for U.S. aircraft engines and engine parts suppliers seeking to penetrate the Canadian market or increase their existing market share are: turbojet and turbo propeller parts (HS 841191), turbojets of a thrust exceeding 25 Kn (HS 841112), and gas turbine parts not elsewhere specified or included (HS 841199). In 2008, these product categories accounted for 84% of engines and engine parts exports to Canada, and 78% of U.S. engines and engine parts exports to Canada. U.S. firms exporting products in these categories should do well in the Canadian market. Below is a table outlining Canada's leading engine imports in 2008 by volume, by rate of growth between 2007 and 2008, and Canada's leading U.S. engine and engine parts imports.

Canada's Leading Engine and Engine Parts Imports - 2008

Canada's top 5 engines/engine parts imports

	$ Value
• Turbojet and turbo propeller parts (HS 841191)	$2.1 billion
• Turbojets of a thrust exceeding 25 Kn (HS 841112)	$1.1 billion
• Gas turbine parts nesoi (HS 841199)	$594 million
• Fuel, Lub/Cooling Med Pumps For Int Comb Pistn Eng (HS 841330)	$246 million
• Turbo propellers Of A Power Exceeding 1,100 Kw (HS 841122)	$142 million

Canada's fastest growing engines/engine parts imports

	$ Value	07/08 Growth
• Turbo propellers Of A Power Exceeding 1,100 Kw (HS 841122)	185.63%	($142 million)
• Reaction Engines Other Than Turbojets (HS 841210)	172.43%	($265 thousand)
• Machy for aircraft maintenance, o/t industrial rob (HS 8479899997)	89.7%	($5.65 million)
• Gas Turbines Of A Power Not Exceeding 5,000 Kw (HS 841181)	28.39%	($73.1 million)
• Turbojet and turbo propeller parts (HS 841191)	21.83%	($2.1 billion)

Canada's top 5 U.S. engine/engine parts imports

	$ Value	07/08 Growth
• Turbojet and turbo propeller parts (HS 841191)	$1.25 billion	(24.87%)
• Turbojets of a thrust exceeding 25 Kn (HS 841112)	$582 million	(-2.91%)
• Gas turbine parts nesoi (HS 841199)	$271 million	(7.3%)
• Fuel, Lub/Cooling Med Pumps For Int Comb Pistn Eng (HS 841330)	$147 million	(-12%)
• Turbo propellers Of A Power Exceeding 1,100 Kw (HS 841122)	$136 million	(181.25%)

Note that there is a perfect match between Canada's top 5 engines and engine parts imports, and Canada's top 5 U.S. engines and engine parts imports. The United States is already very well-positioned in this market; it is supplying Canada with the engine-related products it imports the most.

Key Prospective Canadian-Based Buyers & Suppliers of Engines and Engine Parts

Canadian buyers and suppliers of engines and engine parts are a mixture of Canadian companies and foreign-owned companies established in Canada. The United States is at a considerable advantage in the Canadian engine and engine parts market because of its geographic proximity to Canada. Due to the high precision machining and high-tech technologies that go into making engines and engine parts, products are often shipped across the US-Canada border multiple times before being incorporated into an aircraft.

Other advantages that ensure the U.S. is likely to keep its significant market share of Canadian engine and engine parts imports: similar business cultures, established business networks, close allied relationship in matters of defense-related technology, ITAR facilitations for Canadian suppliers and the existence of the Canada-U.S. free trade agreement, NAFTA. Below is a list of some of the largest locally-established suppliers of engines and engine parts, and prospective buyers of engine parts.

Aveos (Canada)

Aveos is a full-service independent maintenance, repair and overhaul (MRO) provider of airframe, engine, component and maintenance solutions. From maintenance facilities across Canada and in El Salvador, we provide integrated service solutions to over 100 customers, while focusing on building a robust network of strategic alliances. Approximately 4,500 employees are committed to a tradition of providing world-class quality and expertise to customers across the Americas.

Innotech-Execaire Aviation Group (Canada)
Innotech-Execaire offers maintenance, repair and overhaul, refurbishment, avionics upgrades as well as full green aircraft completions and paint.

Magellan Aerospace (Canada)
Magellan Aerospace Corporation is one of the world's most integrated and comprehensive aerospace industry suppliers. Magellan designs, engineers, and manufactures aeroengine and aerostructure components for aerospace markets, advanced products for military and space markets, and complementary specialty products.

Rolls Royce Canada (U.K.)
Rolls Royce Canada Ltd. is recognized for its expertise in engineering and worldwide operations in the aerospace and energy businesses. Its main activities include repair and overhaul on a wide range of civil and military aero engines, component repair services, research and development and new production for the energy business.

Pratt & Whitney Canada (U.S.)
Pratt & Whitney Canada (PWC) has played a key role in the development and growth of the aerospace industry for 80 years. A subsidiary of United Technologies Corporation (UTC), PWC has the mandate to design, develop, manufacture, market and support turbofan, turboprop and turboshaft engines in a wide range of power ratings. The company also offers Auxiliary Power Units (APUs).

StandardAero
World's largest independent small and medium-sized gas turbine maintenance, repair and overhaul firm.

Turbomeca Canada (Groupe Safran) (France)
Turbomeca Canada, a subsidiary of the SAFRAN Group, is the world leader in design, manufacturing and sale of gas turbines for small and medium power for helicopters. In addition, Turbomeca repairs and overhaul helicopter gas turbine engines.

End Users Characteristics

In 2003, 11% of Canada's aerospace industry was military related. Over the last three years, there has been a noticeable shift – Canadian aerospace companies are diversifying and producing more military-related products. Today, about 77% of Canadian aerospace products are for the civil market, and 23% for the military marketplace. While this trend is here to stay, Canada remains a large civil/commercial aerospace market.

Moreover, Canada's engine and engine parts manufacturing sector is mostly concentrated in small engines for assembly on private business jets, small regional jets, and commercial helicopters. However, Canadian MRO companies do maintenance, repair and overhaul work on commercial and military aircraft of all sizes.

Government Procurement

In the last 36 months, the Canadian government announced it plans to purchase equipment worth $45 to $50 billion that includes: fixed-wing search and rescue aircraft, maritime patrol aircraft, and fighter aircraft. So far, the government acquired 4 Boeing C-17 strategic airlift aircraft, ordered 17 C-130J tactical aircraft, and purchased Boeing Chinook helicopters. Many of these purchases are conditional on awarding Canadian companies offset contracts equivalent to the value of the contract award. In particular, Canadian companies are being awarded MRO work on these aircraft and will need engine parts.

In addition to contacting the individual Canada companies, U.S. companies are eligible to compete in Canadian government procurement and can contact the Department of National Defense (DND). DND discloses purchasing programs on their website http://www.forces.gc.ca/site/pri/2/invest-eng.asp. All Canadian federal procurement tenders covered under the trade agreements are posted on the Canadian Government's electronic tendering system located at www.merx.com.

Market Entry

Market entry strategies depend on the product/service that a U.S. exporter would like to sell in the Canadian aircraft and aircraft parts marketplace. If the product is geared at OEMs, then firms need to be aware that a shift is occurring in procurement. OEMs such as Pratt & Whitney Canada are moving away from managing many suppliers to building a long-term relationship with systems integrators, who in turn manage suppliers. Therefore, companies need to be mindful of this new reality and approach systems integrators, in addition to contacting OEMs directly.

If U.S. firms are looking for agents or distributors, they need to select potential business partners that have been working in the industry for several years and have an established network of contacts with aerospace OEMs and systems integrators. When doing business in Quebec, U.S. firms need to be mindful that although many speak English, French is the predominant language of most business places. A demonstrated sensitivity to this business culture is an added bonus when penetrating or increasing your presence in the Quebec aerospace market.

Market Issues & Obstacles

Canadian and U.S. companies have open access to each other's market due to the North American Free Trade Agreement (NAFTA). According to the 2008 USTR National Trade Estimate Report on Foreign Barriers (NTE), no significant foreign barriers to U.S. exports were found in the aerospace sector. Notwithstanding, aircraft products must meet Canadian aircraft product standards. For more information, contact the following organizations: Bureau de Normalization du Quebec, Canadian Standards Association.

Ressources & Contacts

Standards

Bureau de normalization du Quebec
Tel: (418) 652-2238
Website: www.bnq.qc.ca

Canadian Standards Association (CSA)
Tel: (416) 747-4058
Website: www.csa-internationl.org

Associations

Aerospace Industries Association of Canada
Ottawa, Ontario
Tel: 613.232.4297
Fax: 613.232.1142
www.aiac.ca

Quebec Aerospace Association
Montreal, Quebec
Tel: 514.596.2388
Fax: 514.596.3395
www.aqa.ca

Ontario Aerospace Council (OAC)
Kitchener, Ontario
Tel: 519.895.2442
Fax: 519.895.2452
www.ontario.org

Aviation Alberta
Edmonton, Alberta
Tel: 780.756.4450
www.aviationalberta.com

For More Information

If your company would like to have more information on business opportunities in the Canadian aerospace marketplace, please contact Ms. Gina Rebelo Bento, National Commercial Specialist for the Canadian Aerospace

Industry via e-mail at: Gina.Bento@mail.doc.gov; phone: 1-514-398-9695 ext. 2260; fax: 1-514-398-0711.
Please visit our website: www.buyusa.gov/Canada for updated trade missions and upcoming events.
To receive market updates on upcoming business opportunities and trade events, please email her at Gina.Bento@mail.doc.gov and ask to be placed on her mailing list.

For additional information on Canada's defense sector, please contact Lucy Latka, Sr. Commercial Specialist at the U.S. Embassy in Ottawa at lucy.latka@mail.doc.gov; phone: (613) 688-5219; fax: (613) 238-5999. Lucy Latka is the National Defense Industry and Government Procurement Specialist for Canada.

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